

We claim:

- 1 1. A high fluid loss spotting pill comprising:
2 a carrier fluid;
3 an LCM consisting essentially of an amount and form of acid soluble mineral
4 particulate;
5 said amount and said form being adapted to form a substantially impermeable,
6 acid soluble filtercake upon injection of said composition with said
7 carrier fluid into said wellbore and defluidization.
- 1 2. The high fluid loss spotting pill of claim 1 further comprising
2 a first quantity of weighting agent; and
3 a second quantity of suspending agent effective to suspend said weighting
4 agent.
- 1 3. The high fluid loss spotting pill of claim 2 wherein said first quantity
2 of weighting agent is adapted to produce a density substantially the same as the
3 density of a drilling fluid used to drill a formation being treated.
- 1 4. The high fluid loss spotting pill of claim 2 wherein said first quantity
2 of weighting agent produces a spotting pill having a density of at least about 9 ppg.
- 1 5. The high fluid loss spotting pill of claim 1 wherein 85 wt.% or more of
2 said LCM is acid soluble.
- 1 6. The high fluid loss spotting pill of claim 1 wherein 90 wt.% or more of
2 said LCM is acid soluble.
- 1 7. The high fluid loss spotting pill of claim 2 wherein 85 wt.% or more of
2 said LCM is acid soluble.

1 8. The high fluid loss spotting pill of claim 2 wherein 90 wt.% or more of
2 said LCM is acid soluble.

1 9. The high fluid loss spotting pill of claim 3 wherein 85 wt.% or more of
2 said LCM is acid soluble.

1 10. The high fluid loss spotting pill of claim 3 wherein 90 wt.% or more of
2 said LCM is acid soluble.

1 11. The high fluid loss spotting pill of claim 4 wherein 85 wt.% or more of
2 said LCM is acid soluble.

1 12. The high fluid loss spotting pill of claim 4 wherein 90 wt.% or more of
2 said LCM is acid soluble.

1 13. The high fluid loss spotting pill of claim 1 wherein said acid soluble
2 mineral particulate is selected from the group consisting of salts of alkaline earth
3 metals, silicates, hematites, and acid soluble mineral oxides.

1 14. The high fluid loss spotting pill of claim 1 wherein said acid soluble
2 mineral particulate is selected from the group consisting of preferably carbonates of
3 alkaline earth metals and silicates of alkaline earth minerals.

1 15. The high fluid loss spotting pill of claim 1 wherein said acid soluble
2 mineral particulate is a carbonate of an alkaline earth metal.

1 16. The high fluid loss spotting pill of claim 15 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 17. The high fluid loss spotting pill of claim 16 wherein said granular form
2 is coarse grain and said flake form is fine grain.

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1 18. The high fluid loss spotting pill of claim 2 wherein said acid soluble
2 mineral particulate is selected from the group consisting of salts of alkaline earth
3 metals, silicates, hematites, and acid soluble mineral oxides.

1 19. The high fluid loss spotting pill of claim 2 wherein said acid soluble
2 mineral particulate is selected from the group consisting of preferably carbonates of
3 alkaline earth metals and silicates of alkaline earth minerals.

1 20. The high fluid loss spotting pill of claim 2 wherein said acid soluble
2 mineral particulate is a carbonate of an alkaline earth metal.

1 21. The high fluid loss spotting pill of claim 20 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 22. The high fluid loss spotting pill of claim 20 wherein said granular form
2 is coarse grain and said flake form is fine grain.

1 23. The high fluid loss spotting pill of claim 21 wherein said granular form
2 is coarse grain and said flake form is fine grain.

1 24. The high fluid loss spotting pill of claim 3 wherein said acid soluble
2 mineral particulate is selected from the group consisting of salts of alkaline earth
3 metals, silicates, hematites, and acid soluble mineral oxides.

1 25. The high fluid loss spotting pill of claim 3 wherein said acid soluble
2 mineral particulate is selected from the group consisting of preferably carbonates of
3 alkaline earth metals and silicates of alkaline earth minerals.

1 26. The high fluid loss spotting pill of claim 3 wherein said acid soluble
2 mineral particulate is a carbonate of an alkaline earth metal.

1 27. The high fluid loss spotting pill of claim 26 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 28. The high fluid loss spotting pill of claim 27 wherein said granular form
2 is coarse grain and said flake form is fine grain.

1 29. The high fluid loss spotting pill of claim 4 wherein said acid soluble
2 mineral particulate is selected from the group consisting of salts of alkaline earth
3 metals, silicates, hematites, and acid soluble mineral oxides.

1 30. The high fluid loss spotting pill of claim 4 wherein said acid soluble
2 mineral particulate is selected from the group consisting of preferably carbonates of
3 alkaline earth metals and silicates of alkaline earth minerals.

1 31. The high fluid loss spotting pill of claim 4 wherein said acid soluble
2 mineral particulate is a carbonates of an alkaline earth metal.

1 32. The high fluid loss spotting pill of claim 31 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 33. The high fluid loss spotting pill of claim 32 wherein said granular form
2 is coarse grain and said flake form is fine grain.

1 34. The high fluid loss spotting pill of claim 2 having a yield point of
2 about 5 or more.

1 35. The high fluid loss spotting pill of claim 3 having a yield point of
2 about 5 or more.

1 36. The high fluid loss spotting pill of claim 4 having a yield point of
2 about 5 or more.

1 37. The high fluid loss spotting pill of claim 1 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 38. A high fluid loss spotting pill comprising:
2 a carrier fluid;

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3 a first quantity of weighting agent adapted to produce a density substantially
4 the same as the density of a drilling fluid used to drill a formation
5 being treated;
6 a second quantity of suspending agent effective to suspend said weighting
7 agent in said carrier fluid;
8 an LCM consisting essentially of:
9 a third quantity of acid soluble mineral fiber; and;
10 an amount of acid soluble mineral particulate;
11 said third quantity, said amount, and said form being adapted to form a
12 substantially impermeable, acid soluble filtercake upon injection of
13 said composition with an effective carrier fluid into said wellbore and
14 defluidization.

1 39. The high fluid loss spotting pill of claim 38 wherein said first quantity
2 of weighting agent produces a spotting pill having a density of at least about 9 ppg.

1 40. The high fluid loss spotting pill of claim 38 wherein 85 wt.% or more
2 of said LCM is acid soluble.

1 41. The high fluid loss spotting pill of claim 38 wherein 90 wt.% or more
2 of said LCM is acid soluble.

1 42. The high fluid loss spotting pill of claim 39 wherein 85 wt.% or more
2 of said LCM is acid soluble.

1 43. The high fluid loss spotting pill of claim 39 wherein 90 wt.% or more
2 of said LCM is acid soluble.

1 44. The high fluid loss spotting pill of claim 38 wherein said acid soluble
2 mineral particulate is selected from the group consisting of salts of alkaline earth
3 metals, silicates, hematites, and acid soluble mineral oxides.

1 45. The high fluid loss spotting pill of claim 38 wherein said acid soluble
2 mineral particulate is selected from the group consisting of preferably carbonates of
3 alkaline earth metals and silicates of alkaline earth minerals.

1 46. The high fluid loss spotting pill of claim 38 wherein said acid soluble
2 mineral particulate is a carbonate of an alkaline earth metal.

1 47. The high fluid loss spotting pill of claim 45 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 48. The high fluid loss spotting pill of claim 46 wherein said acid soluble
2 mineral particulate is a combination of granular form and flake form.

1 49. The high fluid loss spotting pill of claim 47 wherein said granular form
2 is fine grain and said flake form is fine grain.

1 50. The high fluid loss spotting pill of claim 39 wherein said acid soluble
2 mineral particulate is selected from the group consisting of salts of alkaline earth
3 metals, silicates, hematites, and acid soluble mineral oxides.

1 51. The high fluid loss spotting pill of claim 39 wherein said acid soluble
2 mineral particulate is selected from the group consisting of preferably carbonates of
3 alkaline earth metals and silicates of alkaline earth minerals.

1 52. The high fluid loss spotting pill of claim 39 wherein said acid soluble
2 mineral particulate is calcium carbonate.

1 53. The high fluid loss spotting pill of claim 52 wherein said calcium
2 carbonate is a combination of granular form and flake form.

1 54. The high fluid loss spotting pill of claim 53 wherein said granular form
2 is fine grain and said flake form is fine grain.

1 55. The high fluid loss spotting pill of claim 38 having a yield point of
2 about 5 or more.

1 56. The high fluid loss spotting pill of claim 39 having a yield point of
2 about 5 or more.

1 57. A high fluid loss spotting pill comprising:
2 a carrier fluid;
3 a first quantity of weighting agent adapted to produce a density substantially
4 the same as the density of a drilling fluid used to drill a formation
5 being treated;
6 a second quantity of suspending agent effective to suspend said weighting
7 agent in said carrier fluid;
8 an amount of LCM consisting essentially of calcium carbonate particulate;
9 said quantity, said amount, and said form being adapted to form a substantially
10 impermeable, acid soluble filtercake upon injection of said
11 composition with an effective carrier fluid into said wellbore and
12 defluidization.

1 58. The high fluid loss spotting pill of claim 57 wherein said calcium
2 carbonate particulate comprises granular form and flake form.

1 59. The high fluid loss spotting pill of claim 58 wherein said granular form
2 is coarse grain and said flake form is fine grain.

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1 60. The high fluid loss spotting pill of claim 57 wherein said first quantity
2 of said weighting agent produces a spotting pill having a density of at least about 9
3 ppg.

1 61. The high fluid loss spotting pill of claim 58 wherein said first quantity
2 of said weighting agent produces a spotting pill having a density of at least about 9
3 ppg.

1 62. The high fluid loss spotting pill of claim 59 wherein said first quantity
2 of said weighting agent produces a spotting pill having a density of at least about 9
3 ppg.

1 63. A high fluid loss spotting pill comprising:
2 a carrier fluid;
3 a first quantity of weighting agent adapted to produce a density substantially
4 the same as the density of a drilling fluid used to drill a formation
5 being treated;
6 a second quantity of suspending agent effective to suspend said weighting
7 agent in said carrier fluid;
8 an LCM consisting essentially of:
9 a third quantity of acid soluble mineral fiber; and;
10 an amount of calcium carbonate particulate;
11 said quantity, said amount, and said form being adapted to form a substantially
12 impermeable, acid soluble filtercake upon injection of said
13 composition with an effective carrier fluid into said wellbore and
14 defluidization.

4	10	5	% to	10	%
5	14	5	% to	10	%
6	18	1	% to	5	%
7	20	1	% to	5	%
8	25	1	% to	5	%
9	>25	87	% to	65	%.

1 72. The high fluid loss spotting pill of claim 63 wherein the following
2 weight percent of the composition passes through screens having the following mesh
3 sizes:

4	10	8	%
5	14	7	%
6	18	3	%
7	20	1	%
8	25	1	%

1 73. The high fluid loss spotting pill of claim 57 wherein said third quantity
2 is 10 wt.% or more of said composition.

1 74. The high fluid loss spotting pill of claim 57 wherein said third quantity
2 is about 25 wt.% of said composition.

1 75. The high fluid loss spotting pill of claim 73 wherein said amount is
2 about 50 wt.% of said composition.

1 76. The high fluid loss spotting pill of claim 74 wherein said amount is
2 about 50 wt.% of said composition.

1 77. The high fluid loss spotting pill of claim 59 wherein said third quantity
2 is 10 wt.% or more of said composition.

1 78. The high fluid loss spotting pill of claim 59 wherein said third quantity
2 is about 25 wt.% of said composition.

1 79. The high fluid loss spotting pill of claim 77 wherein said amount is
2 about 50 wt.% of said composition.

1 80. The high fluid loss spotting pill of claim 78 wherein said amount is
2 about 50 wt.% of said composition.

1 81. The high fluid loss spotting pill of claim 63 wherein said third quantity
2 is 10 wt.% or more of said composition.

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82. The high fluid loss spotting pill of claim 63 wherein said third quantity is about 25 wt.% of said composition.

83. The high fluid loss spotting pill of claim 81 wherein said amount is about 5

0 wt.% of said composition.

84. The high fluid loss spotting pill of claim 82 wherein said amount is about 50 wt.% of said composition.

85. The high fluid loss spotting pill of claim 65 wherein said third quantity is 10 wt.% or more of said composition.

86. The high fluid loss spotting pill of claim 65 wherein said third quantity is about 25 wt.% of said composition.

87. The high fluid loss spotting pill of claim 85 wherein said amount is about 50 wt.% of said composition.

88. The high fluid loss spotting pill of claim 86 wherein said amount is about 50 wt.% of said composition.

89. A high fluid loss spotting pill comprising:

a carrier fluid;

an LCM consisting essentially of an amount and form of acid soluble mineral particulate;

said amount and said form being adapted to form a substantially impermeable,

acid soluble filtercake upon injection of said composition with said

carrier fluid into said wellbore and defluidization;

a first quantity of weighting agent; and

9 a second quantity of suspending agent effective to suspend said weighting
 10 agent, said suspending agent being selected from the group consisting
 11 of attapulgite, quaternized attapulgite, and a combination thereof.

1 90. The high fluid loss spotting pill of claim 3 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 91. The high fluid loss spotting pill of claim 4 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 92. The high fluid loss spotting pill of claim 7 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 93. The high fluid loss spotting pill of claim 20 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 94. The high fluid loss spotting pill of claim 21 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 95. The high fluid loss spotting pill of claim 23 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 96. The high fluid loss spotting pill of claim 38 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 97 102. The high fluid loss spotting pill of claim 40 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 98 103. The high fluid loss spotting pill of claim 45 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

1 99 104. The high fluid loss spotting pill of claim 49 wherein said suspending
 2 agent is selected from the group consisting of attapulgite and quaternized attapulgite.

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1 ~~116~~ The high fluid loss spotting pill of claim 113 wherein said ratio is
2 about 50:50.

2 about 50:50.

2 about 50:50.